

ALUMINIUM-WARE FOR COOKING

No Danger to Health BUT COMMON SENSE NECESSARY.

That housewives need have no fear of using aluminium cooking utensils is the conclusion drawn from a report on "Aluminium in food" issued on Thursday by the Ministry of Health. It has been drawn up by Dr. G. W. Monier-Williams, who is in charge of the Chemical Laboratory of the Ministry.

Dr. Monier-Williams finds that while aluminium salts are undesirable as ingredients of baking powders, there is no convincing evidence that the use of aluminium cooking vessels has a harmful effect upon the ordinary consumer.

It is pointed out that statements appeared from time to time that aluminium cooking utensils were dangerous to health and that the small amount of the metal which might be dissolved or corroded by food might give rise to various ailments and even be a contributory cause of cancer. These statements had been opposed as being contrary to experience, and moreover had been declared by many scientific men to be devoid of any scientific foundation whatever.

In a foreword to the report Dr Arthur MacNalty, the Chief Medical Officer, states: "So persistent have been these criticisms that many people have banished aluminium ware altogether from their kitchens. Possibly the prejudice against aluminium ware is connected with the use in some countries of alum as an ingredient of baking powder, a practice which is not countenanced in this country."

The amount of aluminium which may gain access to food from aluminium vessels under different conditions is shown to be very small, and it is stated that many of the statements as to large amounts being taken up by food must be ascribed to the use of faulty methods of analysis.

Common-Sense Methods

Common sense must be used in cooking in aluminium. Strongly alkaline materials such as soda will attack it, as also will strong acids, but the pure metal seemed to be remarkably resistant to corrosion by acid foods. In general, the amount taken up by foods in this way was far less than the amount which would be introduced into bread by the use of alum baking powder.

Regarding the absorption of aluminium by the body and its effect on health, a striking fact was the extremely small amount of the metal which apparently finds its way through the walls of the digestive tract and into the blood and organs of the body. It was difficult to believe that quantities of the order of one or two parts per million in the body tissues could have any ill effect.

On the other hand it was an undoubted fact that moderately large doses of soluble aluminium salts might exert an astringent and irritating effect on the stomach lining and might interfere with digestion. For this reason the use of alum baking powders, which introduce relatively large amounts of aluminium into bread, was not desirable.

Individual Cases

Dr. Monier-Williams also states that it is possible that there may be individuals who are susceptible to even such small doses of aluminium as may be derived from aluminium utensils, but evidence of this is inconclusive.

There are certain cases where physicians and patients were firmly of opinion that aluminium had been a cause of illness and that benefit had resulted when it was given up. It was possible that such cases were due to a genuine idiosyncrasy or sensitiveness to aluminium on the part of certain people. Such idiosyncrasies were well known in connection with certain foods such as fish, milk, &c. If in any particular individual it could be satisfactorily established that an idiosyncrasy to aluminium existed, the prudent course for such an individual would be to avoid it for the future.

An experiment of cooking a mutton broth containing mixed vegetables in an aluminium pan is described. After being sampled, it was allowed to remain in the pan and reheated on successive days. A similar mixture was cooked in an enamelled pan as a control. The results were as follows:—

	Aluminium in parts per million of broth.
Cooked in enamelled pan	1.13
Cooked in aluminium pan—	
(i.) Immediately after cooking.	7.0
(ii.) After 24 hours	10.6
(iii.) After 48 hours	11.5

The degree of purity of the metal may have same influence on its liability to corrosion, it is stated. Commercial aluminium of 99.5 per cent purity could now be produced. It was more homogeneous than formerly and not so liable to corrosion from local electrolytic action.